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Exhibit R-2, RDT&E Budget Item Justification: PB 2011 Air Force									DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development				R-1 ITEM NOMENCLATURE PE 0207590F: Seek Eagle							
COST (\$ in Millions)	FY 2009 Actual	FY 2010 Estimate	FY 2011 Base Estimate	FY 2011 OCO Estimate	FY 2011 Total Estimate	FY 2012 Estimate	FY 2013 Estimate	FY 2014 Estimate	FY 2015 Estimate	Cost To Complete	Total Cost
Total Program Element	21.355	22.071	19.263	0.000	19.263	18.661	19.239	19.532	19.820	Continuing	Continuing
674037: SEEK EAGLE Certifications	21.355	22.071	19.263	0.000	19.263	18.661	19.239	19.532	19.820	Continuing	Continuing

**A. Mission Description and Budget Item Justification**

The Air Force operates a variety of combat aircraft that carry numerous and varied stores (munitions, missiles, fuel tanks, targeting pods, range pods, electronic countermeasures pods, etc.). Stores are carried in countless different loading combinations determined by operational and training scenarios, missions, tactics, and weapon development programs. Aircraft stores combinations change as operational plans and tactics change and as new stores are developed and fielded. Before operational, training or test use, the Air Force must evaluate these configurations for safe loading, carriage, and separation (jettison and normal release); as well as verify ballistics accuracy under the user-certified carriage and employment parameters. The Air Force SEEK EAGLE program completes certification recommendations and recommended flight clearances through any combination of engineering analysis, wind tunnel testing, modeling and simulation, and ground/flight test and evaluation. The program recommends about 1000 aircraft/store combinations for flight each year with analysis and testing, requiring from weeks to years depending on the complexity. Integrated solutions for combat aircrew weapon delivery planning problems are developed and provided to combat forces via Combat Weapons Delivery Software (CWDS). The program is also responsible for inserting new and emerging technologies into the SEEK EAGLE process as well as providing resources for the sustainment of a viable Air Force aircraft/store certification capability.

SEEK EAGLE funds are currently budgeted to support certification testing and analysis for new weapons programs (and all new variants) including, but not limited to: GBU-39 Small Diameter Bomb (SDB) I/II, GBU-54 Laser Joint Direct Attack Munitions (LJDAM), AGM-158 Joint Air-to-Surface Standoff Missile (JASSM), AIM-9X, AIM-120 (Advanced Medium Range Air-to-Air Missile, AMRAAM), ADM-160 Miniature Air-Launched Decoy (MALD), MALD-Jammer, BRU-57 (Smart Bomb Rack), GBU-51 low collateral damage warheads for Precision Guided Munitions (PGMs), Sniper Targeting Pod with video data link, LITENING Targeting Pod with video data link, Airborne Instrumentation System (AIS) pods, and many other inventory stores on inventory CAF and SOCOM aircraft. SEEK EAGLE funds are also used to assist the F-35 JPO with subject matter expertise in the System Development and Demonstration phase; developing a very limited organic store certifications capability to support F-35 in the Production, Sustainment, Follow-on Development phase. SEEK EAGLE funds will continue developing F-22 engineering models/data and provide follow-on technical support from Lockheed Martin. SEEK EAGLE funds are used to obtain non-inventory stores for post-integration certification requirements.

The RDT&E Budget Activity is 07, Operational System Development, because the program supports fielded systems.

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B. Program Change Summary (\$ in Millions)					
	FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
Previous President's Budget	21.586	22.071	0.000	0.000	0.000
Current President's Budget	21.355	22.071	19.263	0.000	19.263
Total Adjustments	-0.231	0.000	19.263	0.000	19.263
• Congressional General Reductions		0.000			
• Congressional Directed Reductions		0.000			
• Congressional Rescissions	0.000	0.000			
• Congressional Adds		0.000			
• Congressional Directed Transfers		0.000			
• Reprogrammings	0.000	0.000			
• SBIR/STTR Transfer	0.000	0.000			
• Other Adjustments	-0.231	0.000	19.263	0.000	19.263
Change Summary Explanation					
The FY 2010 President's Budget submittal did not reflect FY 2011 through FY 2015 funding. Therefore, explanation of changes between the two budget positions cannot be made in a relevant manner.					

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<b>Exhibit R-2A, RDT&amp;E Project Justification:</b> PB 2011 Air Force								<b>DATE:</b> February 2010			
<b>APPROPRIATION/BUDGET ACTIVITY</b> 3600: <i>Research, Development, Test &amp; Evaluation, Air Force</i> BA 7: <i>Operational Systems Development</i>				<b>R-1 ITEM NOMENCLATURE</b> PE 0207590F: <i>Seek Eagle</i>				<b>PROJECT</b> 674037: <i>SEEK EAGLE Certifications</i>			
<b>COST (\$ in Millions)</b>	<b>FY 2009 Actual</b>	<b>FY 2010 Estimate</b>	<b>FY 2011 Base Estimate</b>	<b>FY 2011 OCO Estimate</b>	<b>FY 2011 Total Estimate</b>	<b>FY 2012 Estimate</b>	<b>FY 2013 Estimate</b>	<b>FY 2014 Estimate</b>	<b>FY 2015 Estimate</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
674037: <i>SEEK EAGLE Certifications</i>	21.355	22.071	19.263	0.000	19.263	18.661	19.239	19.532	19.820	Continuing	Continuing
Quantity of RDT&E Articles	0	0	0	0	0	0	0	0	0		

## A. Mission Description and Budget Item Justification

The Air Force operates a variety of combat aircraft that carry numerous and varied stores (munitions, missiles, fuel tanks, targeting pods, range pods, electronic countermeasures pods, etc.). Stores are carried in countless different loading combinations determined by operational and training scenarios, missions, tactics, and weapon development programs. Aircraft stores combinations change as operational plans and tactics change and as new stores are developed and fielded. Before operational, training or test use, the Air Force must evaluate these configurations for safe loading, carriage, and separation (jettison and normal release); as well as verify ballistics accuracy under the user-certified carriage and employment parameters. The Air Force SEEK EAGLE program completes certification recommendations and recommended flight clearances through any combination of engineering analysis, wind tunnel testing, modeling and simulation, and ground/flight test and evaluation. The program recommends about 1000 aircraft/store combinations for flight each year with analysis and testing, requiring from weeks to years depending on the complexity. Integrated solutions for combat aircrew weapon delivery planning problems are developed and provided to combat forces via Combat Weapons Delivery Software (CWDS). The program is also responsible for inserting new and emerging technologies into the SEEK EAGLE process as well as providing resources for the sustainment of a viable Air Force aircraft/store certification capability.

SEEK EAGLE funds are currently budgeted to support certification testing and analysis for new weapons programs (and all new variants) including, but not limited to: GBU-39 Small Diameter Bomb (SDB) I/II, GBU-54 Laser Joint Direct Attack Munitions (LJDAM), AGM-158 Joint Air-to-Surface Standoff Missile (JASSM), AIM-9X, AIM-120 (Advanced Medium Range Air-to-Air Missile, AMRAAM), ADM-160 Miniature Air-Launched Decoy (MALD), MALD-Jammer, BRU-57 (Smart Bomb Rack), GBU-51 low collateral damage warheads for Precision Guided Munitions (PGMs), Sniper Targeting Pod with video data link, LITENING Targeting Pod with video data link, Airborne Instrumentation System (AIS) pods, and many other inventory stores on inventory CAF and SOCOM aircraft. SEEK EAGLE funds are also used to assist the F-35 JPO with subject matter expertise in the System Development and Demonstration phase; developing a very limited organic store certifications capability to support F-35 in the Production, Sustainment, Follow-on Development phase. SEEK EAGLE funds will continue developing F-22 engineering models/data and provide follow-on technical support from Lockheed Martin. SEEK EAGLE funds are used to obtain non-inventory stores for post-integration certification requirements.

The RDT&E Budget Activity is 07, Operational System Development, because the program supports fielded systems.

## B. Accomplishments/Planned Program (\$ in Millions)

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Exhibit R-2A, RDT&E Project Justification: PB 2011 Air Force				DATE: February 2010		
APPROPRIATION/BUDGET ACTIVITY 3600: Research, Development, Test & Evaluation, Air Force BA 7: Operational Systems Development		R-1 ITEM NOMENCLATURE PE 0207590F: Seek Eagle		PROJECT 674037: SEEK EAGLE Certifications		
B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
MAJOR THRUST: F-22A Capability Development and Weapons Certification.  FY 2009 Accomplishments: In FY 2009: Developed an initial integrated contractor-to-government capability transition plan to develop an organic government aircraft-store compatibility engineering capability for the F-22. Developed organic capability in four primary compatibility engineering disciplines plus 2 supporting disciplines. Received multiple deliverables (data, tools, training, and technical support) from the prime contractor and developed computational modeling and simulation (M&S) capabilities to support aircraft-store compatibility analysis. Supported engineering and flight test activities for integration of the GBU-39 Small Diameter Bomb (SDB) I and Air Intercept Missile-9X (AIM-9X) on the F-22.  FY 2010 Plans: In FY 2010: Finalize integrated contractor-to-government engineering capability transition plan for the F-22. Continue developing organic F-22 engineering capability in remaining 4 disciplines by receiving additional contractor deliverables and developing organic computational M&S capabilities. Continue to support engineering and flight test activities for store integration and certification on F-22, such as the GBU-39 SDB I, AIM-9X, Joint Direct Attack Munition (JDAM) enhancements, and a travel pod.  FY 2011 Base Plans: In FY 2011: Continue developing organic F-22 engineering capability in remaining disciplines by receiving additional contractor deliverables and developing organic computational M&S capabilities. Perform engineering analysis and begin wind tunnel and flight test planning to support certification of the Air Intercept Missile 120D (AIM-120D) and AIM-9X on the F-22 for Increment 3.2. Acquire support from the contractor for engineering analysis for Increment 3.2 aircraft-stores certification.  FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.		1.800	4.200	3.300	0.000	3.300
MAJOR THRUST: Develop Mission Planning Software including Combat Weapon Delivery Software (CWDS).		3.500	3.500	3.900	0.000	3.900

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Supported CWDS requirements for multiple Mission Planning Environments (MPEs) on two major frameworks: Portable Flight Planning Software (PFPS) and Joint Mission Planning System (JMPS). Supported the CWDS software development cycle to meet new, multi-platforms requirements in addition to on-going warfighter requirements. Met increased testing requirements to support widening CWDS integration efforts.</p> <p><i>FY 2010 Plans:</i> In FY 2010: Continue support of CWDS requirements across multiple MPEs on two different frameworks: PFPS and JMPS. Sustain the CWDS software development cycle to meet new, multi-platforms requirements in addition to on-going warfighter requirements. Initiate CWDS re-architecture for alignment with JMPS FY11 requirements and provide additional essential capabilities to the warfighter.</p> <p><i>FY 2011 Base Plans:</i> FY 2011: Continue support of CWDS requirements for multiple MPEs on two different frameworks: PFPS and JMPS. Begin transition to the redeveloped CWDS software for alignment with JMPS roadmap architecture. Continue support of legacy CWDS development until full transition of all MPEs to new JMPS frameworks has occurred.</p> <p><i>FY 2011 OCO Plans:</i> In FY 2011 OCO: Not Applicable.</p>						
MAJOR THRUST: Modeling and Simulation (M&S) capability development in support of store certification		2.900	2.900	2.900	0.000	2.900
<p><i>FY 2009 Accomplishments:</i> In FY 2009: Developed M&amp;S capabilities to support store certification disciplines. Work included alpha code testing of the Create-AV/Kestrel code for F16 &amp; F22 aircraft. Key FY 2009 deliverable - Flight Test Database tool capability applicable across all disciplines.</p>						

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B. Accomplishments/Planned Program (\$ in Millions)						
		FY 2009	FY 2010	FY 2011 Base	FY 2011 OCO	FY 2011 Total
FY 2010 Plans: In FY 2010: Continue development and improvement of M&S capability to support store certification disciplines. Example work will include alpha and beta code testing of new Create-AV/Kestrel code base for application to Stability and Control Discipline progressing from static aircraft to aircraft with moving controls. Other key work includes tools necessary to characterize F35 and F22 weapon bays including aero-acoustic prediction.						
FY 2011 Base Plans: In FY 2011: Continue development and improvement of M&S capability to support store certification disciplines. Example work will include alpha and beta code testing of new Create-AV/Kestrel code base for application to Stability and Control Discipline progressing from static aircraft to aircraft with moving controls Other key work includes tools necessary to characterize F35 and F22 weapon bays including aero-acoustic prediction.						
FY 2011 OCO Plans: In FY 2011 OCO: Not Applicable.						
MAJOR THRUST: Evaluate aircraft/store compatibility through analysis, M&S and flight and ground test. Provide flight recommendations to airworthiness authorities.		13.155	11.471	9.163	0.000	9.163
FY 2009 Accomplishments: In FY 2009: Delivered 135 flight clearance recommendations, certification recommendations and related products to airworthiness authorities. Significant projects included: Quick Reaction Certifications of new JDAM/Paveway mixes on F-15E and F-16; MALD, SDB II & targeting pod Development Test support; AFSOC/SOCOM weaponization of light aircraft; certification of laser LJDAM, AIM-9X with/air-to-ground stores on F-16, SDB on F-16, JASSM on F-15E.						

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<b>B. Accomplishments/Planned Program (\$ in Millions)</b>											
						<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	
<b>FY 2010 Plans:</b> In FY 2010: Continually provide compatibility flight recommendations as requested by ACC/A8, AAC, AFSOC and other agencies. Perform extensive F-16/SDB II ground and flight testing.											
<b>FY 2011 Base Plans:</b> In FY 2011: Continually provide compatibility flight recommendations as requested by ACC/A8, AAC, AFSOC and other agencies.											
<b>FY 2011 OCO Plans:</b> In FY 2011 OCO: Not Applicable.											
Accomplishments/Planned Programs Subtotals						21.355	22.071	19.263	0.000	19.263	
<b>C. Other Program Funding Summary (\$ in Millions)</b>											
<b>Line Item</b>	<b>FY 2009</b>	<b>FY 2010</b>	<b>FY 2011 Base</b>	<b>FY 2011 OCO</b>	<b>FY 2011 Total</b>	<b>FY 2012</b>	<b>FY 2013</b>	<b>FY 2014</b>	<b>FY 2015</b>	<b>Cost To Complete</b>	<b>Total Cost</b>
• PE Not Provided (3850): <i>None</i>	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
<b>D. Acquisition Strategy</b>											
The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. For initial aircraft-weapons integration, the aircraft or weapon program office is responsible for budgeting and providing the test assets to AFSEO for the store certification requirements. For post integration certification requirements, AFSEO funds are used to obtain the non-inventory test assets.											
<b>E. Performance Metrics</b>											
Please refer to the Performance Base Budget Overview Book for information on how Air Force resources are applied and how those resources are contributing to Air Force performance goals and most importantly, how they contribute to our mission.											

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force											DATE: February 2010		
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<b>Product Development (\$ in Millions)</b>													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Organic F-22 Capabilities	C/CPFF	Lockheed Martin Marietta, GA	8.619	2.200		2.000		0.000		2.000	Continuing	Continuing	0.000
Enhance Existing and Develop Organic Electro EMI Capabilities	C/CPFF	Applied Research Baltimore, MD	0.260	0.250		0.300		0.000		0.300	Continuing	Continuing	0.000
<b>Subtotal</b>			8.879	2.450		2.300		0.000		2.300			0.000
<b>Remarks</b>													
<b>Support (\$ in Millions)</b>													
				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
Mission Support	PO	TBD Eglin AFB, FL	21.510	3.507		3.507		0.000		3.507	Continuing	Continuing	0.000
<b>Subtotal</b>			21.510	3.507		3.507		0.000		3.507			0.000
<b>Remarks</b>													

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Exhibit R-3, RDT&E Project Cost Analysis: PB 2011 Air Force										DATE: February 2010	
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**Test and Evaluation (\$ in Millions)**

				FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total			
Cost Category Item	Contract Method & Type	Performing Activity & Location	Total Prior Years Cost	Cost	Award Date	Cost	Award Date	Cost	Award Date	Cost	Cost To Complete	Total Cost	Target Value of Contract
46th Test Wing	PO	TBD Eglin AFB, FL	201.048	13.016		9.889		0.000		9.889	Continuing	Continuing	0.000
AEDC	PO	No text provided Arnold Engineering Dev Center,TN	20.741	1.344		2.247		0.000		2.247	Continuing	Continuing	0.000
AFFTC	Various	TBD Edward AFB, CA	0.900	0.400		0.320		0.000		0.320	Continuing	Continuing	0.000
Various	Various	Various Multiple other for T&E Support	92.012	1.354		1.000		0.000		1.000	Continuing	Continuing	0.000
<b>Subtotal</b>			314.701	16.114		13.456		0.000		13.456			0.000

**Remarks**

			Total Prior Years Cost	FY 2010		FY 2011 Base		FY 2011 OCO		FY 2011 Total	Cost To Complete	Total Cost	Target Value of Contract
<b>Project Cost Totals</b>			345.090	22.071		19.263		0.000		19.263			0.000

**Remarks**

Total Prior Years Cost may include only FY 2009 data.

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Exhibit R-4, RDT&E Schedule Profile: PB 2011 Air Force		DATE: February 2010
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<p><b>The SEEK EAGLE program does not execute in accordance with established acquisition program milestones. Each aircraft/store configuration requested by the user goes through the SEEK EAGLE process by the designated user priority.</b></p>		

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<b>Exhibit R-4A, RDT&amp;E Schedule Details:</b> PB 2011 Air Force			<b>DATE:</b> February 2010
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**Schedule Details**

Event	Start		End	
	Quarter	Year	Quarter	Year
JDAM	1	2009	4	2011
JASSM	1	2009	4	2011
SDB	1	2009	4	2011
AIM-9X	1	2009	4	2011
AIM-120	1	2009	4	2011
WCMD	1	2009	4	2011
MALD	1	2009	4	2011
SNIPER VDL	1	2009	4	2011
LITENING GEN 4	1	2009	4	2011

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